



**BODA** <sup>TM</sup>  
Gas Technology



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# CATALOG

- 01 | THE COMPANY
- 02 | PSA TECHNOLOGY
- 04 | N<sub>2</sub> GENERATORS
- 09 | O<sub>2</sub> GENERATORS
- 12 | COMPRESSED AIR FILTER
- 13 | HIGH EFFICIENCY OIL-REMOVER
- 14 | ACTIVATED CARBON ADSORBER
- 15 | REFRIGERATION COMPRESSED AIR DRYER
- 17 | MICRO-HEAT REGENERATION COMPRESSED AIR DRYER
- 18 | HEATLESS REGENERATION COMPRESSED AIR DRYER
- 19 | COMBINATION COMPRESSED AIR DRYER





# THE COMPANY

BODA is a professional gas equipment manufacturer founded in 2002.

With close to 20 years of experience in manufacturing nitrogen and oxygen generators, BODA is an industry leader in providing sustainable nitrogen and oxygen solutions. We design and manufacture an extensive range of innovative and technologically advanced nitrogen and oxygen generators for a variety of industry applications.

We develop and manufacture on-site gas generators and gas purifiers, as well as integrated solutions for compressed air and technical gases. BODA product portfolio is comprised of Nitrogen Generators, Oxygen Generators, Dryers, including Medical Oxygen and VPSA nitrogen Generators, filters, refrigerated dryers and adsorption dryers.

Today, BODA offers solutions for several industries and sectors such as: chemical and pharmaceutical electronic components, metal works, aquaculture, water treatment engineering, automotive, food, wine, aviation, marine, energy medical, oil and gas, among others.

BODA is always striving to create and manufacture products of the highest quality, for worldwide customer satisfaction and offer creative sophisticated, and pragmatic solutions to its clients for their many challenges.



# PSA TECHNOLOGY



## PRESSURE SWING ADSORPTION

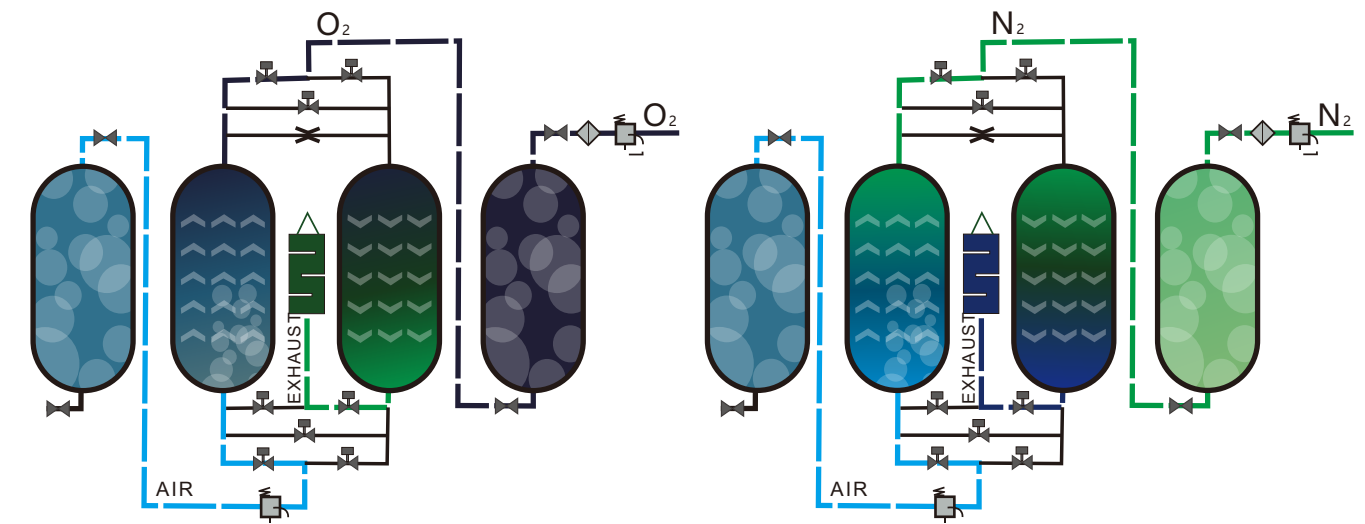
Pressure Swing Adsorption can be used to produce N<sub>2</sub> or O<sub>2</sub> from compressed air, which is fed to the unit that uses adsorption phenomena to remove the contaminants: N<sub>2</sub> when the desired pure gas is O<sub>2</sub>, or O<sub>2</sub> when the desired pure gas is N<sub>2</sub>. Also, in both cases, H<sub>2</sub>O and CO<sub>2</sub> are removed as well as other minor contaminants.

The PSA unit contains two tower packed with a selective adsorbent that has affinity towards the component to be removed: a carbon molecular sieve is used to produce N<sub>2</sub> and zeolites are used to produce O<sub>2</sub>.

Each tower undergoes a cyclic sequence of high and low pressure steps that guarantees the production of a continuous flow of high purity gas

In the high-pressure step, the adsorbent retains the contaminants present in the compressed air and the desired gas (N<sub>2</sub> or O<sub>2</sub>) is obtained from the top of the columns.

The regeneration is accomplished in the low-pressure step, with the release of contaminants retained by the adsorbent.



## PSA ADVANTAGES

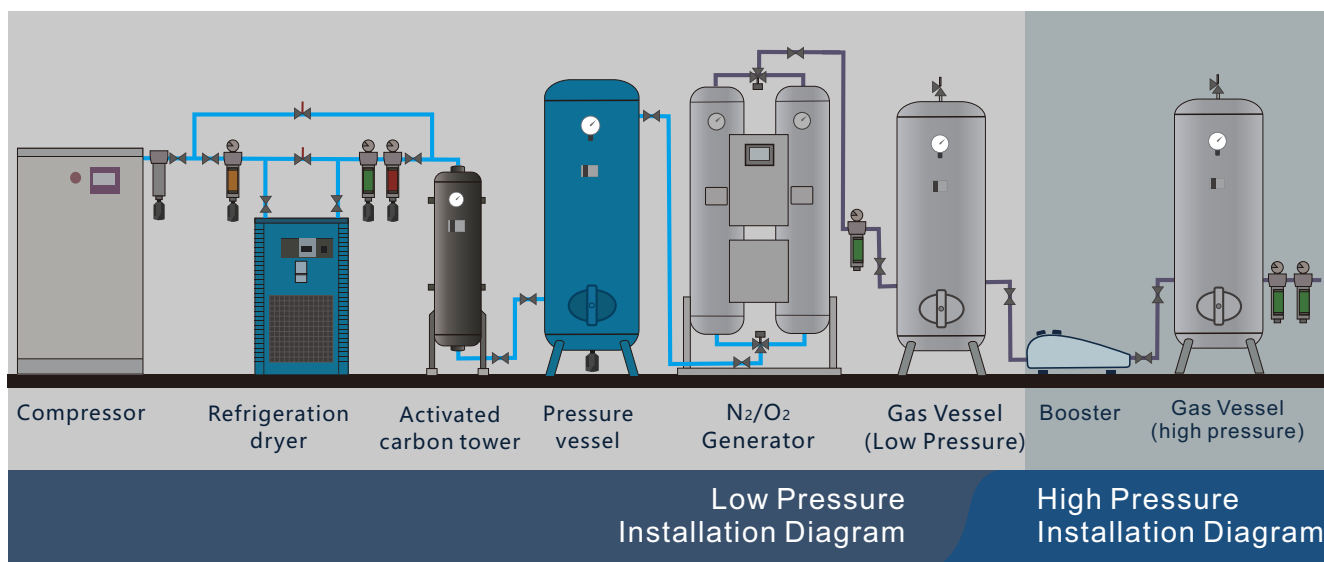
- **Economy**
  - 90% reduction in the cost of Nitrogen/Oxygen
- **Convenience**
  - elimination of logistical and administrative operations
- **Continuous availability**
  - elimination of orders and deliveries
- **Robustness, reliability and durability**
- **Reduced maintenance**
- **Security**
- **Ready-to-use engineering solutions**



# PSA TECHNOLOGY



## PSA SYSTEM



# N<sub>2</sub> GENERATORS

## DESCRIPTION

BSN Nitrogen generator, based on Pressure Swing Adsorption (PSA) technology using state of the art Carbon Molecular Sieves adsorbents.

Under certain pressure, the difference of diffusion rate between nitrogen and oxygen in the air is quite different on carbon molecular sieve; oxygen molecule is absorbed largely by the carbon molecular sieve and nitrogen molecule concentrates in gas-phase in a short time, so as to realize separation of oxygen and nitrogen.

Due to that the absorption capacity of carbon molecular sieve for oxygen varies largely from different pressure,

reducing the pressure can make the carbon molecular sieve release the absorbed oxygen molecule and regenerate the carbon molecular sieve, so as to realize repeated recycling of it.

It adopts the technique of two absorption towers, which one tower absorbs oxygen and produces nitrogen another tower releases the absorbed oxygen and regenerates the carbon molecular sieve. This cyclic-alternating pattern can produce high-quality nitrogen continuously

## FEATURES

- Low energy consumption, less cost, strong adaptability, rapid nitrogen production and adjustable purity;
- Modular structure design saves the occupied area;
- Reasonable inner structure and uniform distribution of airflow reduces the high-speed impact of the airflow;
- The key parts adopt the famous brand, which is the effective guarantee of the equipment quality;
- It has functions of diagnosis, alarming and automatic troubleshooting for several failures;
- Complete technique and process design and optimal effect;
- Convenient operation, stable performance, high automation and unattended operation;
- Unique protection measure for carbon molecular sieve extends the service life of the carbon molecular sieve;
- Automatic venting device with national patented technology ensures the quality of the produced nitrogen;
- Touch-screen display, dew point detection, energy-saving control, DCS communication, etc. are optional.





# N<sub>2</sub> GENERATORS

## ADVANTAGES

- Reduction of Nitrogen costs up to 95%
- Independence from external gas suppliers and from fluctuation of the nitrogen market prices
- Suppression of logistic operations like handling of cylinders or liquid nitrogen supplier management.
- Modular flexible and low Maintenance units.

| Model   |                   | Nitrogen Capacity |      |     |       |       |        |         |
|---------|-------------------|-------------------|------|-----|-------|-------|--------|---------|
|         |                   | 97%               | 98%  | 99% | 99.5% | 99.9% | 99.99% | 99.999% |
| BSN-10  | m <sup>3</sup> /h | 23                | 20   | 17  | 15    | 10    | 6      | 4.7     |
| BSN-15  | m <sup>3</sup> /h | 34                | 30   | 25  | 22    | 15    | 9      | 7       |
| BSN-20  | m <sup>3</sup> /h | 46                | 40   | 34  | 30    | 20    | 12     | 9.4     |
| BSN-25  | m <sup>3</sup> /h | 57                | 50   | 42  | 37    | 25    | 15     | 12      |
| BSN-30  | m <sup>3</sup> /h | 69                | 60   | 51  | 45    | 30    | 18     | 14      |
| BSN-35  | m <sup>3</sup> /h | 80                | 70   | 60  | 52    | 35    | 21     | 16.5    |
| BSN-40  | m <sup>3</sup> /h | 92                | 80   | 68  | 60    | 40    | 24     | 19      |
| BSN-50  | m <sup>3</sup> /h | 115               | 100  | 85  | 75    | 50    | 30     | 23      |
| BSN-60  | m <sup>3</sup> /h | 138               | 120  | 102 | 90    | 60    | 36     | 28      |
| BSN-70  | m <sup>3</sup> /h | 161               | 140  | 119 | 105   | 70    | 42     | 33      |
| BSN-80  | m <sup>3</sup> /h | 184               | 160  | 136 | 120   | 80    | 48     | 37.6    |
| BSN-90  | m <sup>3</sup> /h | 207               | 180  | 153 | 135   | 90    | 54     | 42.3    |
| BSN-100 | m <sup>3</sup> /h | 230               | 200  | 170 | 150   | 100   | 60     | 47      |
| BSN-150 | m <sup>3</sup> /h | 345               | 300  | 255 | 225   | 150   | 90     | 70.5    |
| BSN-200 | m <sup>3</sup> /h | 460               | 400  | 340 | 300   | 200   | 120    | 94      |
| BSN-300 | m <sup>3</sup> /h | 690               | 600  | 510 | 450   | 300   | 180    | 141     |
| BSN-400 | m <sup>3</sup> /h | 920               | 800  | 680 | 600   | 400   | 240    | 188     |
| BSN-500 | m <sup>3</sup> /h | 1150              | 1000 | 850 | 750   | 500   | 300    | 235     |

※Nitrogen production with compressed air input at 7 barg  
※Performance stated at standard condition : 20°C/ 101.325kPa  
※Purity values are measured in oxygen Content  
※Refrigeration dryer and activated carbon filter is required  
※Other capacities/purity available on request. Models and specifications are subject to change without notice

# N<sub>2</sub> GENERATORS

## INTEGRATED SOLUTIONS



ASME Standard Nitrogen Generator



Stainless Nitrogen Generator



Marine Nitrogen Generator



Container-type Nitrogen Generator



Skid-type Nitrogen Generator



Hydrogenation Purification Nitrogen Generator



Carbon Purification Nitrogen Generator

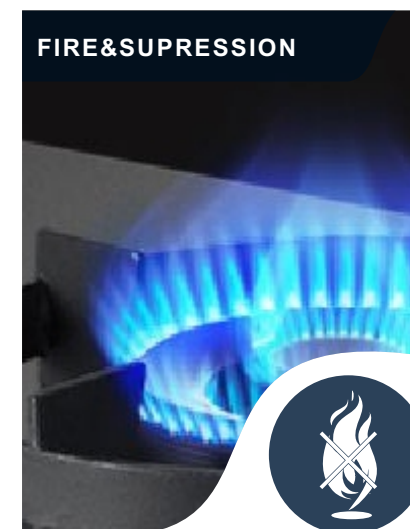
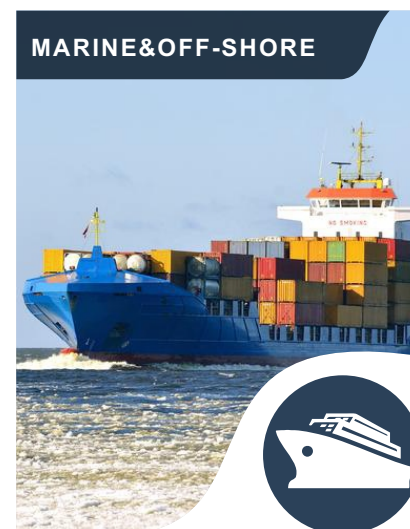
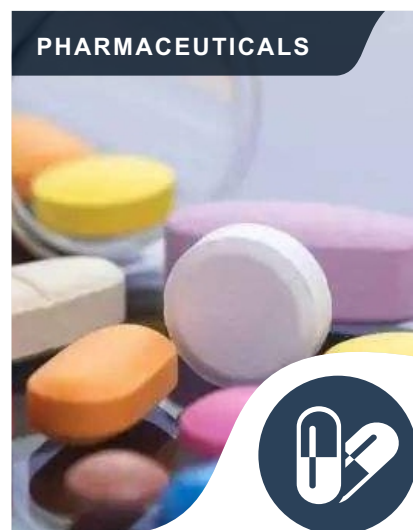


Membrane Nitrogen Generator



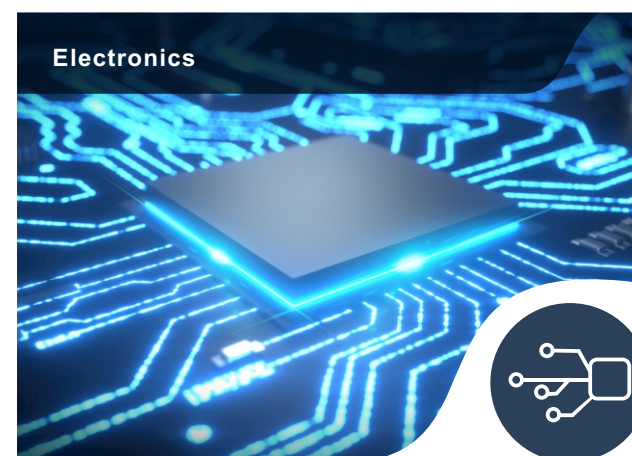
# N<sub>2</sub> GENERATORS

## APPLICATIONS



# N<sub>2</sub> GENERATORS

## APPLICATIONS





# O<sub>2</sub> GENERATOR

## DESCRIPTION

BSO-series oxygen generators based on Pressure Swing Adsorption (PSA) technology using state of the art Zeolite Molecular Sieves adsorbents.

After the impurities such as oil, water, dust, etc. are removed from the compressed air through the air purification system, the compressed air goes into the absorption tower which has been installed with zeolite molecular sieve. Nitrogen, carbon dioxide, water vapor, etc. in the air are absorbed largely by the molecular sieve, while the oxygen penetrates the adsorbent due to its large diffusion rate, so as to

realize separation of nitrogen and oxygen.

When the absorption of the impurities such as nitrogen is saturated in the absorption tower, reducing the pressure can make the zeolite molecular sieve release the absorbed impurities and regenerate, so as to realize repeated recycling.

It adopts two absorption towers and operates circularly under the control of PLC, and then it produces high-quality oxygen.

## FEATURES

- Low energy consumption, less cost, strong adaptability, rapid nitrogen production and adjustable purity;
- Modular structure design saves the occupied area;
- Reasonable inner structure and uniform distribution of airflow reduces the high-speed impact of the airflow;
- The key parts adopt the famous brand, which is the effective guarantee of the equipment quality;
- It has functions of diagnosis, alarming and automatic troubleshooting for several failures;



- Complete technique and process design and optimal effect;
- Convenient operation, stable performance, high automation and unattended operation;
- Unique protection measure for zeolite molecular sieve extends the service life of the zeolite molecular sieve;
- Automatic venting device with national patented technology ensures the quality of the produced oxygen;
- Touch-screen display, dew point detection, energy-saving control, DCS communication, etc. are optional.

# O<sub>2</sub> GENERATOR

## ADVANTAGES

- Safe delivery and independence from external gas suppliers and from fluctuation of the oxygen market price
- Suppression of logistic operations like handling of cylinders or liquid Oxygen and supplier management.  
Modular flexible and low maintenance units
- Don't waste more money with Oxygen

| Model   |      | Nitrogen Capacity |      |       |
|---------|------|-------------------|------|-------|
|         |      | 85%               | 90%  | 93%   |
| BSO-5   | m³/h | 1.96              | 1.8  | 1.64  |
| BSO-10  | m³/h | 3.92              | 3.6  | 3.28  |
| BSO-15  | m³/h | 5.88              | 5.4  | 4.92  |
| BSO-20  | m³/h | 7.84              | 7.2  | 6.56  |
| BSO-25  | m³/h | 9.8               | 9    | 8.2   |
| BSO-30  | m³/h | 11.76             | 10.8 | 9.84  |
| BSO-35  | m³/h | 13.72             | 12.6 | 11.48 |
| BSO-40  | m³/h | 15.68             | 14.4 | 13.12 |
| BSO-50  | m³/h | 19.6              | 18   | 16.4  |
| BSO-60  | m³/h | 23.52             | 21.6 | 19.68 |
| BSO-70  | m³/h | 27.44             | 25.2 | 22.96 |
| BSO-80  | m³/h | 31.36             | 28.8 | 26.24 |
| BSO-90  | m³/h | 35.28             | 32.4 | 29.52 |
| BSO-100 | m³/h | 39.2              | 36   | 32.8  |
| BSO-150 | m³/h | 58.8              | 54   | 49.2  |
| BSO-200 | m³/h | 78.4              | 72   | 65.6  |
| BSO-300 | m³/h | 117.6             | 108  | 98.4  |
| BSO-400 | m³/h | 156.8             | 144  | 131.2 |
| BSO-500 | m³/h | 196               | 180  | 164   |

※Oxygen production with compressed air input at 7 bar

※Performance stated at standard condition : 20°C/ 101.325kPa

※Purity values are measured in oxygen Content

※Refrigeration dryer and activated carbon filter is required

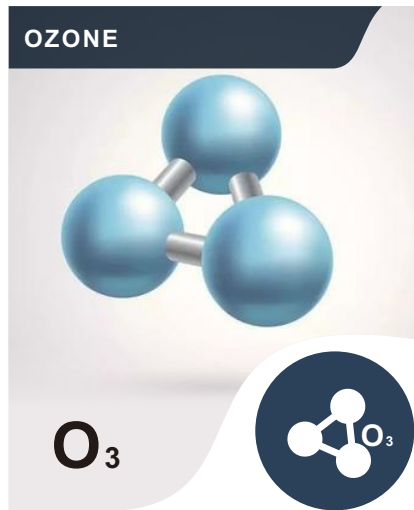
※Other capacities/purity available on request. Models and specifications are subject to change without notice





# O<sub>2</sub> GENERATOR

## APPLICATIONS



# COMPRESSED AIR FILTER



## DESCRIPTION

FAL filters are designed for protection of the downstream compressed air system and equipment with lower air flows against defects and other failures. They ensure high efficient removal of solid particles, water, oil aerosols and vapour from compressed air systems up to 3.0MpaG. Required compressed air quality according to standard ISO 8571 can be achieved with 3 different grades of filter elements (C, T, A).

## FEATURES

- Rated Gas Processing Volume: 1-500m<sup>3</sup>/min
- Inlet Temperature: ≤50°C
- Working Pressure: 0.6~1.0MpaG (1.0~3.0MpaG available according to the requirements)
- Pressure Loss: ≤0.02Mpa



| Filter Level | Oil content | Dust content |
|--------------|-------------|--------------|
| C            | ≤5ppm       | ≤3μm         |
| T            | ≤1ppm       | ≤1μm         |
| A            | ≤0.01ppm    | ≤0.01μm      |

## COMPRESSED AIR FILTER

| Parameter/Model | Capacity£ Nm <sup>3</sup> /min£ © | Connection Size (mm) | Outline Dimension |               | Weight£ kg£ © |
|-----------------|-----------------------------------|----------------------|-------------------|---------------|---------------|
|                 |                                   |                      | Width£ mm£ ©      | Height£ mm£ © |               |
| FAL-1.6/10      | 1.6                               | DN25                 | 260               | 535           | 23            |
| FAL-3/10        | 3                                 | DN32                 | 280               | 610           | 28            |
| FAL-6/10        | 6                                 | DN40                 | 340               | 720           | 56            |
| FAL-12/10       | 12                                | DN50                 | 380               | 800           | 62            |
| FAL-20/10       | 20                                | DN65                 | 460               | 1140          | 86            |
| FAL-30/10       | 30                                | N80                  | 460               | 1145          | 98            |
| FAL-40/10       | 30                                | DN100                | 540               | 1210          | 110           |
| FAL-60/10       | 60                                | DN125                | 650               | 1510          | 195           |
| FAL-100/10      | 80                                | DN150                | 650               | 1510          | 230           |
| FAL-100/10      | 100                               | DN150                | 740               | 1550          | 240           |
| FAL-150/10      | 150                               | DN200                | 780               | 1720          | 320           |
| FAL-200/10      | 200                               | DN250                | 960               | 2085          | 505           |
| FAL-250/10      | 250                               | DN250                | 980               | 2150          | 550           |
| FAL-300/10      | 300                               | DN300                | 1360              | 2120          | 805           |

※Other capacities available on request. Models and specifications are subject to change without notice



# HIGH EFFICIENCY OIL-REMOVER

## DESCRIPTION

The filter which integrates the third-level purification of spiral separation, coarse filtration and precise filtration can directly block up the oil and water in the compressed air, then it completely removes the oil, water and dust in the compressed air through cyclone separation, gravity sedimentation, coarse filtration and precise filtration. The filtration precision of the produced compressed air can be 0.1um and the residual oil can be less than 0.01mg/m3.

## FEATURES

- Flow rate: 1 to 500m³/min
- Operating pressure: 0.6~1.0MpaG (1.0-3.0MpaG as option)
- Inlet temperature: ≤50°C
- Oil content in air outlet: <0.01mg/m³
- Pressure drop: ≤0.02Mpa



| COMPRESSED AIR FILTER |                      |                      |                   |               |               |
|-----------------------|----------------------|----------------------|-------------------|---------------|---------------|
| Parameter/Model       | Capacity£ Nm³/min£ © | Connection Size (mm) | Outline Dimension |               | Weight£ kg£ © |
|                       |                      |                      | Diameter£ mm£ ©   | Height£ mm£ © |               |
| FLY-1.6/10            | 1.6                  | DN25                 | Φ219              | 880           | 55            |
| FLY-3/10              | 3                    | DN32                 | Φ219              | 1190          | 85            |
| FLY-6/10              | 6                    | DN40                 | Φ219              | 1190          | 98            |
| FLY-12/10             | 12                   | DN50                 | Φ273              | 1420          | 128           |
| FLY-20/10             | 20                   | DN65                 | Φ350              | 1570          | 145           |
| FLY-30/10             | 30                   | N80                  | Φ400              | 1560          | 170           |
| FLY-40/10             | 30                   | DN100                | Φ400              | 1660          | 250           |
| FLY-60/10             | 60                   | DN125                | Φ500              | 1790          | 340           |
| FLY-100/10            | 80                   | DN150                | Φ600              | 1885          | 376           |
| FLY-100/10            | 100                  | DN150                | Φ600              | 1885          | 395           |
| FLY-150/10            | 150                  | DN200                | Φ700              | 1950          | 550           |
| FLY-200/10            | 200                  | DN250                | Φ800              | 2240          | 645           |
| FLY-250/10            | 250                  | DN250                | Φ1000             | 2250          | 695           |
| FLY-300/10            | 300                  | DN300                | Φ1000             | 2275          | 750           |

※Other capacities available on request. Models and specifications are subject to change without notice

## ISO8573-1, the international standard for compressed air quality

| ISO8573-1:2010<br>CLASS | Solid Particulate                                                              |                |              |                                | Water                       |             | Oil                                      |
|-------------------------|--------------------------------------------------------------------------------|----------------|--------------|--------------------------------|-----------------------------|-------------|------------------------------------------|
|                         | Maximum number of particulates per m³                                          |                |              | Mass<br>Concentration<br>mg/m³ | Vapour Pressure<br>Dewpoint | Liquid g/m³ | Total Oil (aerosol<br>liquid and vapour) |
|                         | 0.1 - 0.5 micron                                                               | 0.5 - 1 micron | 1 - 5 micron |                                |                             |             | mg/m³                                    |
| 0                       | As specified by the equipment user or supplier and more stringent than Class 1 |                |              |                                |                             |             |                                          |
| 1                       | ≤ 20,000                                                                       | ≤ 400          | ≤ 10         | —                              | ≤ -70° C                    | —           | 0.01                                     |
| 2                       | ≤ 400,000                                                                      | ≤ 6,000        | ≤ 100        | —                              | ≤ -40° C                    | —           | 0.1                                      |
| 3                       | —                                                                              | ≤ 90,000       | ≤ 1,000      | —                              | ≤ -20° C                    | —           | 1                                        |
| 4                       | —                                                                              | —              | ≤ 10,000     | —                              | ≤ +3° C                     | —           | 5                                        |
| 5                       | —                                                                              | —              | ≤ 100,000    | —                              | ≤ +7° C                     | —           | —                                        |
| 6                       | —                                                                              | —              | —            | ≤ 5                            | ≤ +10° C                    | —           | —                                        |

# Activated Carbon Adsorber



## DESCRIPTION

The FLT activated carbon adsorber is designed to remove mostly oil of compressed air.

Compressed air is passed through a bed of activated carbon and ensures a residual oil content in the compressed air of <0.003ppm. The remaining oil content in the compressed air depends on the inlet. A residual oil content <0.003ppm is related to an operating pressure of 7 bar(g), an inlet temperature of 35°C and dried compressed air with a dew point of -40°C and a pre-filtration for particles of <0.03mg/m³.

## FEATURES

- Capacity:1-500Nm³/min
- Inlet temperature: ≤50°C
- Pressure Drop: ≤0.02MpaG
- Working Pressure:0.6-1.0MpaG (1.0-3.0MpaG as option)
- Oil Content of Inlet: ≤1ppm



| FLT Acitivated Carbon Adsorber |                          |                         |                   |               |                   |
|--------------------------------|--------------------------|-------------------------|-------------------|---------------|-------------------|
| Parameter/<br>Model            | Capacity<br>£ Nm³/min£ © | Connection<br>Size (mm) | Outline Dimension |               | Weight<br>£ kg£ © |
|                                |                          |                         | Diameter£ mm£ ©   | Height£ mm£ © |                   |
| FLT-1/10                       | 1.6                      | DN25                    | Φ300              | 1400          | 65                |
| FLT-3/10                       | 3                        | DN32                    | Φ350              | 1620          | 140               |
| FLT-6/10                       | 6                        | DN40                    | Φ500              | 1750          | 245               |
| FLT-10/10                      | 12                       | DN50                    | Φ500              | 2350          | 330               |
| FLT-15/10                      | 15                       | DN65                    | Φ600              | 2100          | 430               |
| FLT-20/10                      | 20                       | DN65                    | Φ600              | 2800          | 560               |
| FLY-30/10                      | 30                       | DN80                    | Φ700              | 2900          | 760               |
| FLY-40/10                      | 40                       | DN100                   | Φ900              | 2800          | 1100              |

※Other capacities available on request. Models and specifications are subject to change without notice

## Why should pressurized air be treated ?

There are about 140million granules of dust and similar particle in 1 m³ of typical city air. 90% of these granules are under 2 microns. These granules (about 5 microns) pass from suction filter of your compressor easily, enter the compressor unit and spread with pressurized air into air assembly. On the other hand, at least 6mg/m³ burned oil comes from the compressor which is combined with water and dust in the air and damage sealing elements of all equipment working with pressurized air. It causes air leakages, oxidation and blockage of valves.

In a same way, the excessive oil will enter the nitrogen/oxygen generator if without treated. The oil vapor will adhere to the adsorbent surface, making the pores (very small holes) on the adsorbent surface blocked, thus losing the adsorption performance and causing the adsorbent oil poisoning. For ensuring the performance and service life of nitrogen/oxygen generator, the amount of oil remaining in the compressed should be lower than 0.003mg/m³.





# REFRIGERATION

## COMPRESSED AIR DRYER

### DESCRIPTION

Refrigeration compressed air dryers FAD have been designed to effectively separate water from the compressed air thus lower pressure dew point all the way down to 3~10°C. Drying is achieved on the principle of cooling which takes place inside highly efficient and ultra-compact 3 stage heat exchanger. In the first stage (air-air heat exchanger), hot and humid inlet air is being pre-cooled by the cold outgoing air. In the second stage (air-refrigerant heat exchanger) intensive water condensation takes place due to cooling the air. All condensed water is separated from the main compressed air stream in the third stage by the integrated demister. A proven and robust design of refrigeration dryers enables efficient and reliable operation, fast installation and simple maintenance.



### AIR-COOLING COMPRESSED AIR REFRIGERATION DRYER

#### FEATURES

- Cooling method: air-cooling
- Operating pressure: 0.6-1.0MpaG (1.0-3.0 MpaG as option)
- Dew point: 3-10°C
- Pressure drop:  $\leq 0.02$ Mpa
- Inlet temperature:  $\leq 42^{\circ}\text{C}$
- Max ambient temp.  $38^{\circ}\text{C}$
- Flow rate: 1-250 Nm<sup>3</sup>/min
- Refrigerant: R22

| Parameter/<br>Model | Capacity<br>£ Nm <sup>3</sup> /min£ © | Power<br>Supply | Power<br>£ KWE © | Connection<br>Size (mm) | Outline Dimension |                  |                   | Weight<br>£ kg£ © |
|---------------------|---------------------------------------|-----------------|------------------|-------------------------|-------------------|------------------|-------------------|-------------------|
|                     |                                       |                 |                  |                         | Length<br>£ mm£ © | Width<br>£ mm£ © | Height<br>£ mm£ © |                   |
| FAD-1F              | 1                                     | 220V/50HZ       | 0.74             | DN25                    | 650               | 450              | 635               | 45                |
| FAD-3F              | 3                                     |                 | 0.74             | DN32                    | 800               | 500              | 900               | 90                |
| FAD-6F              | 6                                     |                 | 1.1              | DN40                    | 880               | 550              | 1005              | 115               |
| FAD-12F             | 12                                    |                 | 2.2              | DN50                    | 1140              | 690              | 1105              | 260               |
| FAD-20F             | 20                                    | 380V/50HZ       | 3.7              | DN65                    | 1400              | 750              | 1360              | 400               |
| FAD-30F             | 30                                    |                 | 5.5              | DN80                    | 1800              | 950              | 1595              | 550               |
| FAD-40F             | 40                                    |                 | 7.4              | DN100                   | 1950              | 1050             | 1730              | 820               |
| FAD-60F             | 60                                    |                 | 11               | DN125                   | 2200              | 1150             | 1735              | 1020              |
| FAD-80F             | 80                                    |                 | 15               | DN150                   | 2400              | 1300             | 2155              | 1450              |

※Other capacities/dew point available on request. Models and specifications are subject to change without notice

### WATER-COOLING COMPRESSED AIR REFRIGERATION DRYER

#### FEATURES

- Cooling method: water-cooling
- Operating pressure: 0.6-1.0MpaG (1.0-3.0 MpaG as option)
- Flow rate: 1-250 Nm<sup>3</sup>/min
- Refrigerant: R22
- Inlet temperature:  $\leq 45^{\circ}\text{C}$
- Dew point: 3-10°C
- Pressure drop:  $\leq 0.02$ Mpa
- Cooling water inlet temperature:  $\leq 32^{\circ}\text{C}$

# REFRIGERATION

## COMPRESSED AIR DRYER



| Parameter/<br>Model | Capacity<br>£ Nm <sup>3</sup> /min£ © | Power<br>Supply | Power<br>£ KWE © | Pipe dimension<br>of cooling water | Connection<br>Size (mm) | Outline Dimension |                  |                   | Weight<br>£ kg£ © |
|---------------------|---------------------------------------|-----------------|------------------|------------------------------------|-------------------------|-------------------|------------------|-------------------|-------------------|
|                     |                                       |                 |                  |                                    |                         | Length<br>£ mm£ © | Width<br>£ mm£ © | Height<br>£ mm£ © |                   |
| FAD-6W              | 6                                     | 220V/50HZ       | 1.1              | 1/2"                               | DN40                    | 1000              | 480              | 1100              | 220               |
| FAD-12W             | 12                                    |                 | 2.2              | 3/4"                               | DN50                    | 1140              | 690              | 1105              | 310               |
| FAD-20W             | 20                                    | 380V/50HZ       | 3.7              | 1"                                 | DN65                    | 1400              | 750              | 1250              | 400               |
| FAD-30W             | 30                                    |                 | 5.5              | 5/4"                               | DN80                    | 1650              | 850              | 1500              | 780               |
| FAD-40W             | 40                                    |                 | 7.4              | 3/2"                               | DN100                   | 1800              | 850              | 1510              | 820               |
| FAD-60W             | 60                                    |                 | 11               | 3/2"                               | DN125                   | 2000              | 950              | 1530              | 1000              |
| FAD-80W             | 80                                    |                 | 14.7             | 2"                                 | DN150                   | 2350              | 1200             | 1975              | 1400              |
| FAD-100W            | 100                                   |                 | 18.4             | 2"                                 | DN150                   | 2650              | 1400             | 2170              | 1800              |
| FAD-150W            | 150                                   |                 | 29.4             | 3"                                 | DN200                   | 3150              | 1450             | 1860              | 2500              |
| FAD-200W            | 200                                   |                 | 36.8             | 3"                                 | DN250                   | 3370              | 1540             | 1995              | 3300              |
| FAD-250W            | 250                                   |                 | 45.9             | 5"                                 | DN250                   | 3700              | 1900             | 2650              | 3700              |

※Other capacities/dew point available on request. Models and specifications are subject to change without notice

### HIGH-TEMPERATURE INLET COMPRESSED AIR REFRIGERATION DRYER

#### FEATURES

- Cooling method: air-cooling/water-cooling
- Operating pressure: 0.6-1.0MpaG (1.0-3.0 MpaG as option)
- Flow rate: 1-250 Nm<sup>3</sup>/min
- Refrigerant: R22
- Inlet temperature:  $\leq 80^{\circ}\text{C}$
- Dew point: 3-10°C
- Pressure drop:  $\leq 0.02$ Mpa
- Cooling water inlet temperature:  $\leq 32^{\circ}\text{C}$
- Cooling water pressure: 0.2-0.4MpaG

| Parameter/<br>Model | Capacity<br>£ Nm <sup>3</sup> /min£ © | Power<br>Supply | Power<br>£ KWE © | Pipe dimension<br>of cooling water | Connection<br>Size (mm) | Outline Dimension |                  |                   | Weight<br>£ kg£ © |
|---------------------|---------------------------------------|-----------------|------------------|------------------------------------|-------------------------|-------------------|------------------|-------------------|-------------------|
|                     |                                       |                 |                  |                                    |                         | Length<br>£ mm£ © | Width<br>£ mm£ © | Height<br>£ mm£ © |                   |
| FAD-1HF             | 6                                     | 220V/50HZ       | 0.74             | /                                  | DN25                    | 700               | 450              | 915               | 60                |
| FAD-3HF             | 12                                    |                 | 0.74             | /                                  | DN32                    | 880               | 650              | 1075              | 75                |
| FAD-6HF             | 6                                     |                 | 1.1              | /                                  | DN40                    | 1100              | 600              | 1180              | 140               |
| FAD-12HW            | 12                                    |                 | 2.2              | 1"                                 | DN50                    | 1140              | 690              | 1195              | 330               |
| FAD-20HW            | 20                                    | 380V/50HZ       | 3.7              | 1"                                 | DN65                    | 1400              | 750              | 1250              | 450               |
| FAD-30HW            | 30                                    |                 | 5.5              | 3/2"                               | DN80                    | 1650              | 850              | 1500              | 860               |
| FAD-40HW            | 40                                    |                 | 7.4              | 3/2"                               | DN100                   | 1800              | 850              | 1510              | 980               |
| FAD-60HW            | 60                                    |                 | 11               | 3/2"                               | DN125                   | 2000              | 950              | 1550              | 1250              |
| FAD-80HW            | 80                                    |                 | 14.7             | 2"                                 | DN150                   | 2395              | 1200             | 1980              | 1600              |
| FAD-100HW           | 100                                   |                 | 18.4             | 2"                                 | DN150                   | 2650              | 1400             | 2170              | 2200              |
| FAD-150HW           | 150                                   |                 | 29.4             | 3"                                 | DN200                   | 3150              | 1450             | 1860              | 2830              |
| FAD-200HW           | 200                                   |                 | 36.8             | 3"                                 | DN250                   | 3370              | 1540             | 2334              | 3500              |
| FAD-250W            | 250                                   |                 | 45.9             | 5"                                 | DN250                   | 4000              | 1800             | 2800              | 3930              |

※Other capacities/dew point available on request. Models and specifications are subject to change without notice



# MICRO-HEAT

## REGENERATION COMPRESSED AIR DRYER

### DESCRIPTION

ADH Micro-heat Regeneration Compressed Air Dryer is designed for continuous separation of water vapour from compressed air thus lowering the dew point. ADH dryer have two columns that operate alternately. Adsorption takes place under pressure in the first column while the second column regenerates (heated ambient air for desorption). A dryer consists of two columns, filled with desiccant beads, heater, controller, valves, manometers, and a support construction. A proven and robust design enables efficient and reliable operation, fast installation and simple maintenance.



### FEATURES

- Operating pressure: 0.6~1.0Mpa (1.0-3.0Mpa as option)
- Inlet temperature: ≤38℃
- Regeneration compressed air consumption: ≤ 6%
- Pressure dew points: down to -40℃ or -52℃
- Flow rate : 1 to 500 Nm³/min
- Pressure drop: ≤0.02Mpa
- Ambient temperature: ≤38℃

### HEATED ADSORPTION DRYER

| Parameter/<br>Model | Capacity<br>£ Nm³/min£ © | Power<br>Supply | Power<br>£ KW£ © | Connection<br>Size (mm) | Outline Dimension  |                   |                    | Weight<br>£ Kg£ © |
|---------------------|--------------------------|-----------------|------------------|-------------------------|--------------------|-------------------|--------------------|-------------------|
|                     |                          |                 |                  |                         | Length<br>£ ĩmm£ © | Width<br>£ ĩmm£ © | Height<br>£ ĩmm£ © |                   |
| ADH-3/8             | 3                        | 220V/50HZ       | 1.35             | DN32                    | 1100               | 400               | 1350               | 300               |
| ADH-6/8             | 6                        |                 | 3.1              | DN40                    | 1250               | 500               | 1665               | 540               |
| ADH-10/8            | 12                       |                 | 5.8              | DN50                    | 1530               | 620               | 1860               | 980               |
| ADH-20/8            | 20                       |                 | 9.7              | DN65                    | 1720               | 650               | 2500               | 1450              |
| ADH-30/8            | 30                       |                 | 14.7             | N80                     | 1950               | 700               | 2210               | 1670              |
| ADH-40/8            | 30                       |                 | 19.5             | DN100                   | 2000               | 780               | 2950               | 2120              |
| ADH-60/8            | 60                       |                 | 29.7             | DN125                   | 2220               | 900               | 2635               | 2940              |
| ADH-80/8            | 80                       |                 | 41.5             | DN150                   | 2380               | 1150              | 2900               | 3520              |
| ADH-100/8           | 100                      |                 | 52               | DN150                   | 2800               | 1150              | 2935               | 4350              |
| ADH-150/8           | 150                      |                 | 76.5             | DN200                   | 3400               | 1550              | 2995               | 5680              |
| ADH-200/8           | 200                      | 380V/50HZ       | 93               | DN250                   | 3600               | 1750              | 3200               | 7160              |

※Other capacities/dew point available on request. Models and specifications are subject to change without notice.

# HEATLESS

## REGENERATION COMPRESSED AIR DRYER



### DESCRIPTION

ADL Heatless Regeneration Compressed Air Dryer is designed for continuous separation of water vapour from the compressed air thus reducing the pressure dew point. ADL series dryer consists of two columns, filled with desiccant beds, controller, valves, manometers, support construction. Adsorption takes place under pressure in the first column while the second column regenerates with a portion of already dried compressed air at ambient pressure. When the first column is saturated to a certain level column switch-over is carried out and the process of adsorption continues in the second column without any drop of pressure at the outlet of the dryer. Regeneration of saturated desiccant is possible because a small portion of already dry compressed air is decompressed and when expanded it becomes extremely dry.



### FEATURES

- Operating pressure: 0.6~1.0MpaG (1.0-3.0MpaG as option)
- Inlet temperature: ≤38℃
- Regeneration compressed air consumption: ≤ 12 %
- Pressure dew points: down to -40℃ or -52℃
- Flow rate : 0.5 to 500 Nm³/min
- Pressure drop: ≤0.02Mpa
- Ambient temperature: ≤38℃

### HEATED ADSORPTION DRYER

| Parameter/<br>Model | Capacity<br>£ Nm³/min£ © | Power<br>Supply     | Connection<br>Size (mm) | Outline Dimension  |                   |                    | Weight<br>£ Kg£ © |
|---------------------|--------------------------|---------------------|-------------------------|--------------------|-------------------|--------------------|-------------------|
|                     |                          |                     |                         | Length<br>£ ĩmm£ © | Width<br>£ ĩmm£ © | Height<br>£ ĩmm£ © |                   |
| ADL-1.6/8           | 1.6                      | AC220V/50ZH/ < 100W | DN25                    | 900                | 350               | 1185               | 185               |
| ADL-3/8             | 3                        |                     | D32                     | 1100               | 400               | 1350               | 240               |
| ADL-6/8             | 6                        |                     | DN40                    | 1250               | 500               | 1665               | 450               |
| ADL-10/8            | 12                       |                     | DN50                    | 1530               | 620               | 1860               | 900               |
| ADL-20/8            | 20                       |                     | DN65                    | 1720               | 650               | 2500               | 1350              |
| ADL-30/8            | 30                       |                     | DN80                    | 1950               | 700               | 2210               | 1580              |
| ADL-40/8            | 30                       |                     | DN100                   | 2000               | 780               | 2950               | 2030              |
| ADL-60/8            | 60                       |                     | DN125                   | 1850               | 850               | 3050               | 2660              |
| ADL-80/8            | 80                       |                     | DN150                   | 2600               | 1100              | 2870               | 3390              |
| ADL-100/8           | 100                      |                     | DN150                   | 2750               | 1150              | 2935               | 3970              |
| ADL-150/8           | 150                      |                     | DN200                   | 3400               | 1550              | 2995               | 5260              |
| ADL-200/8           | 200                      |                     | DN250                   | 3600               | 1750              | 3200               | 6550              |

※Other capacities/dew point available on request. Models and specifications are subject to change without notice.



# COMBINATION

## COMPRESSED AIR DRYER

### DESCRIPTION

FAG dryers have been designed for continuous separation of water vapour from compressed air thus reducing dew point. Drying consist of two steps. Refrigerant dryer first eliminates large majority of water and reduces dew point down to +3°C. Further reduction of dew point is carried out by adsorption dryer. Operation of dryer is more simple compared to conventional heat regenerated adsorption dryer while average compressed air losses present only up to 3-6%.



### FEATURES

- operating pressure: 0.6~0.8 Mpa(0.8-3.0Mpa as opiton)
- operating temperature range: 1,5 °C to 55 °C
- pressure dew points: down to -40~-70°C(as required)
- flow rate: 6 to 6.500 Nm³/h
- average compressed air consumption: 5 %

### COMBINATION DRYER

| Parameter/<br>Model | Capacity<br>£ Nm³/min£ © | Power<br>Supply<br>£ V/HZ£ © | Power<br>£ KW£ © | Pipe dimension<br>of cooling water | Connection<br>Size (mm) | Outline Dimension  |                   |                    | Weight<br>£ kg£ © | Cooling<br>type               |
|---------------------|--------------------------|------------------------------|------------------|------------------------------------|-------------------------|--------------------|-------------------|--------------------|-------------------|-------------------------------|
|                     |                          |                              |                  |                                    |                         | Length<br>£ ĩmm£ © | Width<br>£ ĩmm£ © | Height<br>£ ĩmm£ © |                   |                               |
| FAG-1.6/8           | 1.6                      | 220V/50HZ                    | 0.74             | /                                  | 25                      | 900                | 1100              | 1185               | 280               | Air-cooling                   |
| FAG-3/8             | 3                        | 220V/50HZ                    | 0.74             | /                                  | 32                      | 1100               | 1200              | 1350               | 410               |                               |
| FAG-6/8             | 6                        | 220V/50HZ                    | 1.1              | /                                  | 40                      | 1250               | 1300              | 1665               | 580               |                               |
| FAG-10/8            | 12                       | 220V/50HZ                    | 2.2              | /                                  | 50                      | 1530               | 1500              | 1860               | 960               |                               |
| FAG-20/8            | 20                       | 380V/50HZ                    | 3.7              | 1"                                 | 65                      | 1720               | 1600              | 2500               | 1550              | Air-cooling/<br>Water-cooling |
| FAG-30/8            | 30                       | 380V/50HZ                    | 5.5              | 5/4"                               | 80                      | 1950               | 1850              | 2210               | 2010              |                               |
| FAG-40/8            | 30                       | 380V/50HZ                    | 7.4              | 3/2"                               | 100                     | 2000               | 2050              | 2950               | 2820              |                               |
| FAG-60/8            | 60                       | 380V/50HZ                    | 11               | 3/2"                               | 125                     | 1850               | 2200              | 3050               | 3800              |                               |
| FAG-80/8            | 80                       | 380V/50HZ                    | 14.7             | 2"                                 | 150                     | 2600               | 2500              | 2870               | 4500              |                               |
| FAG-100/8           | 100                      | 380V/50HZ                    | 18.4             | 2"                                 | 150                     | 2750               | 2750              | 2935               | 5940              |                               |
| FAG-150/8           | 150                      | 380V/50HZ                    | 27.6             | 2"                                 | 200                     | 3400               | 3200              | 2995               | 7750              |                               |
| FAG-200/8           | 200                      | 380V/50HZ                    | 36.7             | 3"                                 | 250                     | 3600               | 3500              | 3200               | 11200             |                               |

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IT'S OUR DRIVING FORCE